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MALKIN, Ye. N.

MALKIN, Ye. N.; YAZGUR, R.Ye.

[Journal-voucher form of bookkeeping in cooperative production artels].
Zhurnal'no-ordernaia forma schetovodstva v artel'akh promyslovoi koo-
peratsii. Moskva, KOIZ, 1954. 134 p. (MIRA 8:3D)

USSR/Medicine - Nicotinic Acid
Medicine - Drugs, Effect

Nov/Dec 48

"The Pharmaceutical, Dynamic and Therapeutic
Effect of Nicotinic Acid," Prof Z. I. Malkin,
S. I. Shcherbatenko, L. A. Lushnikova, Faculty
Therapeutic Clinic, Kazan Med Inst, 124 pp

"Terap Arkhiv" Vol XX, No 6 1948

Clinical observations indicated that nicotinic
acid, used in cases not directly connected with
pellagra, compensates for endocrine deficiency
of vitamin P. Used with sulfonamide preparations
it is valuable in dystrophs, chronic colitis,

57/4981

USSR/Medicine - Nicotinic Acid
(Contd)

Nov/Dec 48

and lobar pneumonia. It apparently helps
eliminate unfavorable effects of prolonged
treatments with large doses of sulfonamide
preparations.

MALKIN, Z. I. PROF

57/4981

MALKIN, Z. I.

27912. MALKIN, Z. I. — O Farmakodinamicheskom deystvii nikotinovoy kisloty.
Trudy XII vsesoyuz. S"yezda terapevtov. 1., 1949, S. 472-76.

SO: Letopis'Zhurnal'nykh Statey. Vol. 37, 1949.

MAIKIN, Z.I., prof. (Kazan')

Sergei Petrovich Botkin and the pressing problems of modern medicine.
Kaz.med.zhur. 40 no.6:3-7 N-D '59. (MIRA 13:5)
(BOTKIN, SERGEI PETROVICH, 1832-1889)

MALKIN, Z.I.; SHCHERBATENKO, S.I.; BEREZOVSKIY, B.S.; KLYUCHAREVA,
S.G.; SALAMATINA, V.V. (Kazan')

Therapeutic tactics in the treatment of rheumatic endomyocarditis
and myocarditis. Vop.revm. 1 no.2:44-48 Ap-Je '61. (MIRA 16:4)

(RHEUMATIC HEART DISEASE)

USSR/Chemistry - Surface Phenomena Nov/Dec 50

"Adhesion of Quartz Filaments in Aqueous Media," A. D. Malkina, B. V. Deryagin, Inst of Phys Chem, Acad Sci USSR, Lab of Surface Forces

"Kolloid Zhur" Vol XII, No 6, pp 431-447

Measured adhesion of fine quartz filaments in aqueous media using Deryagin's formula to calculate specific adhesion energy. Values obtained correspond closely to Bradley's for adhesion of quartz spheres in air. In air adhesion energy is independent of duration of contact; in water it grows slowly from zero.

USSR/Chemistry - Surface Phenomena Nov/Dec 50 (Contd 1)

to equilibrium value approximately equal to value in air. Time for reaching equilibrium value is decreased by addition of electrolytes (increased cation charge) and as temperature is increased. Between 30-40°C this time drops sharply from days to 1 hr. Adhesion kinetics are not affected by time of filament immersion prior to contact or any force pressing them together. Slow separation requires 10-15% less force than rapid. Apparently hydrate layers covering filaments are gradually "destroyed" after contact period. Absence of these kinetics for contact in air and similarity of specific energies for contact in

USSR/Chemistry - Surface Phenomena Nov/Dec 50 (Contd 2)

water and in air indicate in both cases filament surfaces enter into "direct" contact or are separated by identical boundary layer of water. Addition of high concentration of acetone stabilizes hydrate layers and reduces adhesion energy to zero. Explains effect of solvation on lyophilic dispersed systems and has applications in technological processes.

MALKINA, A. D.

MALEINA, A. E., DELYAGIN, E. V., POKHOROV, D. S.

Diffusion

Determination of diffusion coefficients, evaporation rate and content of vapors of various liquids in the atmosphere. Trudy Inst. fiz. khimii AN SSSR No. 1, 1957.

MONTHLY LIST OF SPECIAL ACQUISITIONS. Library of Congress, December 1957. ON LIT. 1911.

MAIKINA, A.D.; ZAK, Ye.G.

Freezing process in drops of liquids. Trudy TSAO no.9:61-76 '52.
(Drops) (Phase rule and equilibrium) (MIRA 11:6)

WALRINT, 1.1

~~MAIL INA, A.D.~~

Investigation data on certain physicochemical properties of iodide particles representing the ice forming nuclei. Trudy TSAO no.22:
117-124 '57. (MIRA 11:4)

(Weather control) (Iodides)

AUTHOR:

Matkina, A. S.

10-1-71

TITLE:

Investigation of Lead Iodide Particles Which Are Ice-Forming Nuclei (Issledovaniya Iodidno-Svinykh Chastits, Svoystv i yadrov, yadryashchikh na ledobrazuyushchimi yadrami)

PERIODICAL:

Meteorologiya i Gidrologiya 1971, No 3, pp. 32-33 USSR,

ABSTRACT:

In connection with widely spread works of topical interest on the artificial influence upon atmospheric clouds and rain for the purpose of their dissipation or of inducing precipitations the investigation of the properties of substances which can be used as ice-forming centers is of special interest. The samples of an aerosol prepared by a special process were investigated by an electron microscope. By the method of direct observation of the particles and by the method of it was possible to obtain the data on size and shape of the aerosol particles of iodite (AgCl), lead iodide (PbI_2) and calcium iodide (CaI_2). The obtained data lead to the conclusion that the aerosol particles of lead iodide as well as particles of other water-soluble substances may change their original form and surface structure by the humidity of air and consequently partially lose their ice-forming properties which they possess in the atmosphere of water vapor. This result is in agreement

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Investigation of the Structure of Lead Iodide Particles Which Are Ice-Forming Nuclei

with the experimental data by Smolov and proves very important the similarity of or structural structures of the reagents and ice-crystals is. As follows from the data given in this article the investigations yield new information with regard to the aerosols AgI , PbI_2 and CdI_2 which are formed in two different ways. These data are confirmed by the results of an ultramicroscopic analysis, performed in parallel, of the electronographic investigations of aerosols. The investigations of structure of the electronographic method showed that beside the given raw material the presence of metallic oxides was not noted in the crystals condensed on the plate. The coincidence of the results of the ultramicroscopic and electronographic analysis indicated their reliability. In examining the process of the condensation and in calculating the active nuclei during the introduction of the aerosol AgI into the undercooled cloud or into the ice the fact has to be taken into account that a portion of the aerosol formed undergoes a change of structure.

AVAILABLE: Library of Congress

Card 2/2

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|----------------|-----------------------------|-------------|
| 1. Meteorology | 2. Artificial precipitation | 3. Iodyrite |
| 4. Lead iodide | 5. Cadmium iodide | |

24(2), 3(7)

AUTHOR: Malkina, A.D.

SV7133-5201-11/1-

TITLE: Application of the Replica Method to the Study of Crystals (Primeneniye metoda replik k izucheniyu ledyanykh kristallov)

PERIODICAL: Izvestiya Vysshego Uchebnogo Zavedeniya, Fizika, 1959, No. 1, pp. 60-62, 1 plate (USSR)

ABSTRACT: Microstructure and surface of ice crystals are of great importance in meteorological physics. The author reviews briefly the work already done on production of replicas of ice crystals (Refs. 1-3). The author tested the following compounds as replica materials: a solution of perchloroethyl in dichloroethane, cellulose acetate, polyacrylonitrile in dichloroethane, a lacquer in acetone, 2:1:1 lacquer No. 227 glue, methylmethacrylate, and a solution of polymethylmethacrylate in dichloroethane. The author found that the best substances to use in production of replicas of ice crystals were a "pre-polymer" of methylmethacrylate and a solution of polymethylmethacrylate in dichloroethane. Replicas were formed by hardening of a liquid film of one of these two substances with the crystals in it. After hardening of

Card 1/4

SOV/139-59-1-11/34

Application of the Replica Method to the Study of Ice Crystals

the replica the ice was melted and evaporated. This method was first used under laboratory conditions when super-cooled mist was induced to crystallize by a considerable drop in temperature or by sprinkling solid carbon dioxide on it. A replica of ice crystals formed under these conditions is shown in Fig. 1 (plate). The method was also used under field conditions and a replica of a snowflake thus obtained is shown in Fig. 2 (plate). Study of tens of thousands of crystals and snowflakes of various dimensions from 5 μ to 1000 μ at temperatures from +2 to -26°C confirmed that a "for-polymer" of methylmethacrylate and a solution of polymethylmethacrylate in dichloroethane are the most suitable substances for production of replicas of ice crystals. The replicas reproduced well the dimensions of the ice crystals; for example for crystals of more than 30 μ in size, discrepancy between the replica and the crystal did not exceed 3 μ . The methylmethacrylate "pre-polymer" was prepared by adding 0.01% of benzoyl peroxide to methylmethacrylate monomer and boiling the mixture for 25 minutes on a water bath. The resultant

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SOV/139-59.1-11/2-

Application of the Replica Method to the Study of Ice Crystals

substance has a viscosity of 1.2 g/cm² and it spread into a film solidifies in about 1 minute. If air is blown round the film at the rate of 10 m/sec the time of solidify is reduced to 10-15 sec. Since the methyl methacrylate "pre-polymer" ages due to polymerization it is preferable to use a solution of polymethylmethacrylate in dichlorobenzene (1 g of polymethylmethacrylate per 10 g of dichlorobenzene at 10°C) as replicar are to be stored for longer than 24 hours. Ice crystals were prepared on microscope slides which were carefully cleaned and covered immediately before use by a layer of replicar forming substance of 50-100 μ thickness. The slides with the replicar-forming films on them were cooled to a temperature below 0°C before use, to avoid the melting of the crystals on contact with the replicar. When a required number of ice crystals was deposited on a slide, it was necessary to keep this slide for 10-20 minutes at a temperature below 0°C in order to obtain a reliable replica before the ice crystals disappear.

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SOV/139-59-1-11/1-

Application of the Replica Method to the Study of Ice Crystals

There are 2 figures (in a plate) and 14 references
5 of which are Soviet, 7 English, 1 Japanese and
1 German.

ASSOCIATION: Moskovskiy Tekhnicheskii Institut Rybnoy Promyshle-
nnosti i Khozyaystva imeni A.I. Mikoyana
Card 4/4 (Moscow Technical Institute of Fish Industry and Fish
Farming imeni A.I. Mikoyan)

SUBMITTED: July 28, 1958

MAMEDOV, B.M.; MALKINA, A.Ya.; FEDOROV, B.F.

Antifungal activity of certain 2-substituted 4-mercapto-1,2,4-triazole-5-benzimidazole. Azerb. khim. zhur. no.3:41-43 1985.

1985, 1985

1. Institut organicheskoy khimii AN GSSR.

STEPANISHCHEVA, Z.G.; MALKINA, A.Ya.

Some data on the problem of the pathogenicity of keratophils.
Vest. derm. i ven. 39 no.4:11-15 Ap '65; (MIRA 19:2

1. Mikologicheskii otdel (rav. - prof. A.M. Ariyevich) Tsentral'-
nogo kozhno-venerologicheskogo instituta Ministerstva zdravookhra-
neniya SSSR, Moskva. Submitted April 23, 1964.

MALKINA, D.G.

Changes in Hassall's corpuscles during thymus regeneration under
X-ray irradiation. Biul. eksp. biol. i med. 52 no.10:104-109 0
'61. (MLA 1:1)

1. Iz kafedry gistologii i embriologii (zav. - chlen-korrespondent
AMN SSSR prof. A.A.Boytkovich) Voronezhskogo meditsinskogo instituta
(dir. - prof. N.I.Oanoralov). Predstavlena deystvitel'nym chlenom
AMN SSSR A.V. Lebedinskim.
(THYMUS GLAND--RADIOGRAPHY) (REGENERATION (BIOLOGY))

MALKINA, D.G.; GUSEV, A.I.; KHRISTICH, M.K. (Voronezh)

Regeneration of the thymus during changes in the thyroid hormone concentration within the organism. Probl. endok. i gorm. 9 no.3:28-31 My-Je '63. (MIRA 17:1)

1. Iz kafedry gistologii i embriologii (zav. -- chlen-korrespondent AMN SSSR prof. A.A. Boytkevich) Voronezhskogo meditsinskogo instituta.

44
B.A. MALKINA, D.I.

Effect of removal of suprarenal gland on salivary secretion in response to different food substances. D. I. Malkina (*J. Physiol. USSR*, 1961, 80, 548-552). Saliva was collected in dogs from a chronic parotid fistula and its org. content estimated in relation to various food substances. This was repeated after removal of one suprarenal and destruction of the other medulla by thermocautery. This causes diminution in org. content of saliva in response to bread, and increase in org. content in response to milk. The effects are seen within 3 days after operation and persist for about 18 days. They are prevented by administration of adrenaline.
D. H. SMITH

Dept. Normal Physiology, Kazan State Med Inst.

MALKINA, D.I.

Innervation mechanism of the salivary glands. Trudy Vses. ob-va
fiziol., biokhim. i farm. 3:41-45 '56 (MLRA 10:4)

1. Fiziologicheskaya laboratoriya kafedry normal'noy fiziologii
Kazanskogo gosudarstvennogo meditsinskogo instituta; zaveduyushchiy
kafedroy professor A.V. Kibyakov, Kazan'.
(SALIVARY GLANDS--INNERVATION)

MALKINA, D.I.; KHAMITOV, Kh.S.

Dynamics of cholinergic reactions of the blood and saliva in
pancreatectomized dogs. Fiziol. zhur. 46 no. 5:565-571 My '60.
(MIRA 13:12)

1. From the Chair of Normal Physiology of the Medical Institute,
Kazan.

(PANCREAS) (CHOLINE) (CHOLINESTERASE) (SALIVA)

MALKINA, D.I.; KHAMITOV, Kh.S.

Interrelationship of mediators of nervous excitation and various electrolytes. Report No. 1: On the relationship of the acetylcholine - cholinesterase system and the potassium and calcium salts in the blood of dogs following partial depancreatization. *Biul. eksp. biol. i med.* 50 no.9:37-41 S '60. (MIRA 14:1,

1. Iz kafedry normal'noy fiziologii (zav. - prof. I.N.Volkova)
Kazanskogo meditsinskogo instituta.
(CHOLINE) (CHOLINESTERASE) (POTASSIUM)
(CALCIUM) (PANCREAS--SURGERY)

MALKIN, V. I.; K. I. VA, N. I.

Effect of water content of polymer on the rate of
degradation in the presence of oxygen and
inhibition. High. tech. res. inst. ser. 1-200
104.

. I. Kura. Chemistry of the polymerization of
acrylonitrile. Institute of Chemistry.

MALKINA, E., inzh.; BAKLYKOV, V.

Works of the Sverdlovsk Fire Research Station. Pozh.delo 4 no.9:4-7
S '58. (MIRA 11:9)
(Sverdlovsk--Fire prevention--Research)

L 35336-66 EWT(m)/EWP(t)/ETI LIE(c) JD/JG
ACC NR: AP6012906 (A)

SOURCE CODE: UR/0075/66/021/004/0459/0462

AUTHOR: Tiptsova, V. G.; Malkina, E. I.; Anisimova, Z. A. E/B

ORG: Moscow Institute of Steels and Alloys (Moskovskiy institut stali i splavov)

TITLE: Chemical spectrum determination of impurities in mercury 21

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 4, 1966, 459-462

TOPIC TAGS: mercury, fatty alcohol, spectrum determination

ABSTRACT: A study has been made of the use of fatty solvent extraction of mercury from hydrochloric solutions. It was found that isoamyl alcohol is the best extractant for separating mercury from impurities in 2-3 M HCl. A method for determining the chemical spectrum was developed for Mg, Mn, Ag, Al, Pb, Ni, Cu, Ca, Cd, and Zn in mercury with an average sensitivity of 10^{-6} - $10^{-7}\%$ for each element. Orig. art. has: 1 figure and 3 tables. [Based on authors' conclusions.] [NT]

SUB CODE: 11, 07/ SUBM DATE: 18Dec64/ ORIG REF: 005/ OTH REF: 003

Card 1/1 *ph*

UDC: 543.42

17. 11. 1957, 11:20
MALKINA, E.S.

Rh factor. Fel'd. i akush. 22 no.11:47-48 N '57. (MIRA 11:2)

1. Sverdlovskiy nauchno-issledovatel'skiy institut okhrany
materinstva i mladenchestva
(RH FACTOR)

GLAUBERZON, Ye.M.; MALKINA, I.D.

Fluorescent lighting at the "Pervomayskaya" Factory in Leningrad.
Svetotekhnika 7 no.5:22-25 My '61. (MIRA 14:6)

1. Fabrika "Pervomayskaya" i LO Gosudarstvennogo proyektного instituta
"Tyazhpromelektroproyekt".
(Leningrad—Fluorescent lighting)

KARAPAYEV, B.I.; MAM... ..

Determining the extent of... ..
per. i... .. (X 5A 17:7)

1. The... ..
problem...

MA LK INA I.S.

Subsymbiosis of young growing under the canopy of a forest.
Bot. zhur. 50 no. 5:603-609 May 1961. (Mikha. 1961)

Bot. zhur. 50 no. 58673-679 ity 16.

2. Laboratoriya biokhimiya, 1. Uchenyaskaya ulitsa - 100
Chelvesti.

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001031910001-5"

MAKINA. Zh. E. M. an.

Relation the serviceability of the vehicle and the driver, Zh. E. M. an.
Ministerstvo Komsomol'skogo Dela, 1986, No. 1, p. 10-11.

TL070. M.

MALKINA, K. H. E.

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4253. Obshchaya tekhnologiya rezinovogo proiz-
odstva (General Technology of Rubber Industry).
K. H. E. MAL'KINA. Moscow: Gosudarst. Nauch.-
Issled. Inst. Khim. Lit. 1962, pp. 192, Chem.
Abstr. 1965, 49, 2769.

012

Adel R. Hayes, Kh. E.

Distr: 4E3d/4E2a(j)

1948. Improving bond strength between components of tyre covers by thermal treatment. Kh. E. MALINA and A. P. PUSHEV. Prochnost. Byul. 1954, p. 168-69. (Vos. Khim. Obshch. in D. I. Mandelstam, 1954). Heating tyre covers prior to moulting and vulcanisation, to a temperature at which pore formation and prevulcanisation do not occur, increases the bond strength and increases the life of the tyre. The best method is h.f. heating, which is rapid and uniform and does not involve alterations to mix formulae or to the construction.

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62 May
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WALKINA, Kh. E.

Walkina, Kh. E.

"Investigation of new methods of heating in the technology of rubber production (TVCn electric heaters)." Min Higher Education. Moscow Inst of Chemical Machinebuilding. Moscow, 1956. (Dissertation for the degree of Doctor in Technical Sciences)

Knizhnaya letopis'
No. 35, 1956. Moscow

MAKINA, Kh. E.

✓47. Use of high frequency dielectric heating in the technology of rubber manufacture. Kh. E. MAKINA and A. P. PUKHOV. Kauch. i. Razina, 1987, 10, No. 4, 23-8. Considering the dielectric properties of natural and various synthetic rubbers mixed with carbon black the author deduces their dielectric heating behaviour. Data on the dielectric properties of unfilled and filled natural rubber, SKB-30A, and SKB vulxes are given. There are 2 references. 25730

1-6520 (7)
2/1/87

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9/8

KOROTKOVA, A.A.; MALKINA, Kh.E.; PUKHOV, A.P.; FOMINA, L.S.

High-frequency drying of latex sponge. Kauch.i rez.16 no.9:9-11
S '57. (MIRA 10:12)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti i
Nauchno-issledovatel'skiy institut rezinovykh i lateksnykh izdeliy.
(Foam rubber--Drying) (Induction heating)

MAL'NIKOV AND

62B-2-6/3

AUTHORS: Kibal'mikov, V. I; Maltina, Ek. E; Pukhov, A. P;
Tikhomirov, P. I.

TITLE: Decrystallisation of Natural Rubber by Heating with a
High Frequency Electric Current. (Dekristallizatsiya
natural'nogo kauchuka putem nagrevaniya elektricheskoi
tokom vysokoy chastoty).

PERIODICAL: Kauchuk i Resina, 1958, Nr.2. pp. 31 - 34. (USSR).

ABSTRACT: Natural rubber has a congealed structure and is not
elastic (the hardness of the surface = 60/70 units,
according to Shore). It cannot, therefore, be processed
mechanically without preliminary decrystallisation. It
is usually decrystallised by heating with the aid of a
hot air current in special chambers with a periodic,
uninterrupted or combined action; deficiencies of
these chambers are discussed. Decrystallisation of
natural rubber, by heating with high frequency current,
makes it possible to make use of the influence of the
heat - inertia properties of natural rubber on the
rate of the process and thus decreasing the duration
of the decrystallisation process. The transition from
the crystalline to the amorphous state takes place when
heating to a temperature of 45°. The hardness of the

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62B-2-6/8

Decrystallisation of Natural rubber by Heating with a High Frequency Electric Current.

rubber decreases to 10 - 20 units on melting of the rubber crystals, and the rubber can then be processed mechanically. Natural rubber is an excellent dielectric, and its characteristics are given.. Natural rubber has a coefficient of dielectric loss = 0.006 - 0.100 (generally 0.02 - 0.06). It can be successfully heated in a high frequency electric field. The Leningrad Tyre Factory has introduced a plant for the decrystallisation of natural rubber, consisting of a heating chamber and a generator TV type ЛГД-30 (viz. Fig. A and B, page 32); details of the plant are given. When heating natural rubber with high frequency currents it is observed that (1) when heating to a temperature of 140°C no detrimental signs of resinification of the natural rubber occurs due to the short period of influence of increased temperature, (2) when natural rubber is heated to a temperature above 40 - 45°, the strength of the bonds between the protective and the remaining foils, and also between the separating foils, is lowered which makes it easier to remove the protective layers to separate the foils. The temperature is not uniformly

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Decrystallisation of Natural Rubber by Heating with a High Frequency Electric Current. 62B-2-3/8

distributed when the generator ЛПЭ-30 with one earth electrode is used. This is caused by the large concentration of the electric field near the high potential electrode which has a smaller surface than the low potential (earthed) electrode. Comparative data on decrystallisation methods for natural rubber are given in a Table on page 75. This method makes it possible to suppress resinification of the rubber, thus improving its quality. To ease the process of decrystallisation, and to improve the sanitary hygienic conditions of work, the chambers used for the decrystallisation do not require long heating, and therefore can be used continuously as well as periodically. The chambers can also be used for the decrystallisation of chloroprene rubber. There are 2 Figures and 1 Table.

ASSOCIATION: Leningrad Tire Plant, Scientific Research Institute of the Tire Industry. (Leningradskiy shinnyy zavod, Nauchno-issledovatel'skiy institut shinnoy promyshlennosti).

AVAILABLE. Library of Congress.

Card 3/3

1. Rubber-Processing	2. Rubber-Decrystallization	3. Rubber-
Electrical properties	4. Rubber-Induction heating	

SOV/138-58-7-6/19
AUTHORS: Malkina, Kh.E., Pukhov, A.P. and Savinkova, A.M.
TITLE: Methods of Drying and Vulcanising Latex Products
(Metod sushki-vulkanizatsii izdeliy iz lateksa)
PERIODICAL: Kauchuk i rezina, 1958, Nr 7, pp 21 - 26 (USSR)
ABSTRACT: Although water in latex gel is only loosely held to the material, drying is slow because of low internal diffusion. Latex products cannot be dried effectively by convection. With an initial water content in the gel following syneresis of the order of 40%, drying temperatures are limited because of the danger of formation of pores. The possibilities of high-frequency heating are considered to be limited because an air gap must be allowed between the electrodes and the gel to permit the water vapour to escape and the voltage necessary to overcome this air gap will give rise to high current in the gel, since the internal resistance of the wet gel is comparatively low. The high current may spoil the product, and in any case the gel will lose heat rapidly to the more massive core on which it is laid. Short-circuit heating, by passing current directly through the gel, becomes slow as the gel dries off and

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Method of Drying and Vulcanising Latex Products

SOV/138-58-7-6/19

suffers from difficulties through corrosion of the electrodes.

The preferred method, therefore, is one of drying by conduction from a heated core on which the gel is laid. Water evaporates freely from the exposed surface but vapour held between the gel and the core inhibits migration to the under-surface. The heat taken in from the core is not sufficient to ensure intensive drying at thick sections, so supplementary heating was provided by radiation from an infra-red lamp above the gel. With this method, the processes of drying and of vulcanisation are inseparable. Experiments were made with gels from latex Nr 4, using specimens 200 mm dia. and 12 mm thick, laid on an electrically heated plate or core. Layers were cut from top, centre and bottom of these specimens throughout the drying time for moisture determination. The curves in Figure 1 show percentage moisture against time, in hours, for drying by conduction from the heated core alone. The four diagrams are for four different core temperatures and Curve 1 is for top, Curve 2 for middle and Curve 3 for bottom of the specimen in each case. Figure 2 shows the

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Method of Drying and Vulcanising Latex Products

same story but in this case the three diagrams are for top, middle and bottom of the specimen and four curves are plotted on each diagram for four temperatures from 70 - 130 °C. These curves suggest that the optimum core temperature is 110 °C.

Tests were then conducted with combined heating, using a 500 W infra-red lamp and holding the core temperature at 110 °C. The three diagrams in Figure 3 are for top, middle and bottom of the specimen and the four curves on each diagram are for different voltages applied to the lamp - Curve 1 without radiation, to Curve 4 with lamp at 180 V applied. The separate diagrams in Figure 4 are for no volts, 110 V, 140 V and 180 V, respectively and the three curves on each diagram are, 1 for top, 2 for middle and 3 for bottom of the specimen.

The temperature at which pore formation, at any given moisture content, occurs must be the limiting factor. Figure 5 shows the relation between these two factors. With an initial moisture content of 35%, the specimen temperature must be below 112 °C. The latex specimens, tested, vulcanise at 150 - 160 °C. Consequently, moisture

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Method of Drying and Vulcanising Latex Products

content had to be reduced to 4-5% before this temperature could be applied. The temperature should be raised as drying proceeds. Figure 6 shows the rate of reduction of moisture with - Curves 1 constant core temperature of 110 °C and, Curves 2, increasing core temperature as drying proceeds. From this work, parameters were derived for drying an actual latex product by combined conduction and radiation heating.

The experimental apparatus shown in Figure 7 is set up to dry and vulcanize a bathing shoe of 2-3 mm thickness at the time the gel was formed. Table 1 shows the properties attained in different parts of the shoe, with various heating regimes.

Table 2 shows the effect of vulcanising at various temperatures for different length of time on this Nr 4 latex. This suggests that optimum conditions are obtained at the higher temperatures for short times. Finally, Table 3 shows an optimum drying and vulcanising regime for production of an actual shoe from this latex. It calls for a two-hour drying period with temperatures raised from

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Method of Drying and vulcanising Latex Products

60 - 130 °C in four stages and a vulcanising time of 25 minutes at 150 °C. The moisture content at the time of transition from drying regime to vulcanising regime should not exceed 4-5%.

There are 7 figures and 3 tables.

ASSOCIATIONS: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific-research Institute of the Tyre Industry) and Nauchno-issledovatel'skiy institut lateksnykh i rezinovykh izdeliy (Scientific-research Institute for Latex and Rubber Products)

Card 5/5

1. Synthetic rubber--Dehydration 2. Synthetic rubber--Vulcanization

AUTHORS: Goranskiy, V.V., Malkina, Kh.E. and Pukhov, A.P. SOV/138-58-11-4/14
TITLE: Preheating Tyre Casings Before Moulding and Vulcanisation
(Nagrev pokryshek pered formovaniyem i vulkanizatsiyey)
PERIODICAL: L: Kauchuk i Rezina, 1958, Nr 11, pp 11 - 17 (USSR)
ABSTRACT: Preheating improves the strength of bond between the parts of the tyre by increasing the interaction between rubber mixes at the interfaces between layers, as a result of higher plasticity and dispersibility. It gives increased adhesiveness at these surfaces through diffusion of sulphur into the rubber mass away from the surfaces and reduction of stresses in the casing at different stages of the manufacturing processes. With preheating before moulding or before vulcanisation, tyres show increased lives on rig test and considerable decrease in scatter between greatest and least lives on test. Best results are obtained where tyres have been preheated by high-frequency current and are subsequently pressed and moulded without intermediate cooling, as shown in Table 1. Figure 1 shows the plasticity of different mixes used in the tyre against temperature. A sufficient degree of plasticity for satisfactory moulding is attained in the breaker and carcass mixes at 60 - 70 °C, whereas

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SOV/138-58-11-4/14

Preheating Tyre Casings Before Moulding and Vulcanisation

the tread mix is much less plasticised at this temperature. Equilibrium between the solubility of sulphur and the content of sulphur in the mix occurs at about these temperatures. Experiment shows that preheating to this temperature gives least relaxation and greatest improvement in tyre quality. Higher temperatures can lead to porosity and pre-vulcanisation. Average breaker rubber mix is subject to pore formation at 73 °C and in natural rubber tyres the breaker mix is the most sensitive to pre-vulcanisation. Tyres may remain in a pre-heated condition for 40 - 50 min if their temperature does not exceed 70 - 80 °C.

Different parts of a tyre have different electrical characteristics which leads to unequal temperature distribution in a high-frequency heating field. The simplest and most effective arrangement for HF heating is between parallel electrodes, as shown in Figure 2. Temperature differences in an unmoulded synthetic rubber tyre preheated for 3 to 10 minutes in an HF field at 8 kV and 11 megacycles are shown in Table 2 and Figure 5. Dielectric constant times loss angle gives a lower loss factor for the tread part of the tyre than the internal parts, so,

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Preheating Tyre Casings Before Moulding and Vulcanisation

assuming that the specific heats of the different rubber mixes are similar, the carcass and breaker rubber will attain higher temperatures. This is a desirable state of affairs and is one of the advantages of HF heating as compared with preheating by hot air. Heat treatment may also be applied to moulded tyres before vulcanisation. In this case, temperature distributions are as shown in Table 4 and Figure 6. (Figures 5 and 6 show temperature distributions with HF heating and with hot-air heating.) Where a moulded tyre is preheated before vulcanisation, the scatter on life test is reduced if the tyre is subsequently cooled before vulcanisation. The curing bag attains a high temperature on account of water in the composition of the lubricating medium used on the surface of the bag. The authors suggest that the best effects of heat treatment are obtained with two-stage treatment before moulding and before vulcanisation; comparisons of rig test lives with HF heating at different stages of manufacture are given in Table 6. Heat treatment of vulcanised tyres is also beneficial, having an annealing effect upon stresses remaining in the

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SOV/138-58-11-4/14

Preheating Tyre Casings Before Moulding and Vulcanisation

tyre after vulcanisation. Rig tests on tyres so treated show double life, on average, and great reduction in scatter.

Results of field tests on three different classes of road surface are shown in Table 7, and confirm that tyres subjected to HF heat treatment before moulding and vulcanisation have substantially better life than standard tyres, particularly on bad surfaces.

HF heating shortens vulcanising time, particularly as the curing bag is brought up to its operating temperature during preheating. Vulcanising time can be reduced from 110 minutes at 145 °C (with standard vulcanisation) to 76 minutes at 160 °C with HF preheating, with general improvement in bond strength between layers as is evidenced in Table 9. Table 10 compares rig test lives of tyres with standard vulcanisation for 110 minutes at 145 °C with lives of tyres vulcanised for shorter times at higher temperatures following HF heat treatment. Vulcanisation for 80 minutes at 155 °C following HF heating gave more than double life.

Card4/5 Figures 7 and 8 show plant for preheating tyres. The lower

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Preheating Tyre Casings Before Moulding and Vulcanisation

electrode is formed by a conveyor belt constructed from aluminium angle sections. The upper electrodes are aluminium plates which can be raised or lowered in hydraulic rams and which are brought close to but not in electrical contact with the tyres. Tyres are preheated in this plant after moulding, before vulcanisation, for 4 1/2 minutes at 8 kV and 17 megacycles. Power consumption per tyre is 3.5 to 4 kWh. The use of HF heating is not satisfactory with tyres containing electrically conductive material such as carbon black, as the presence of conductive particles on the surface of the tyre leads to instability in the heating process through short-circuiting.

There are 8 figures and 10 tables.

ASSOCIATIONS: Moskovskiy shinnyy zavod (Moscow Tyre Factory)
Nauchno-issledovatel'skiy institut shinnoy promyshlennosti
(Research Institute for the Tyre Industry)

Card 5/5

Судьба/Воскресение
Авг/Воскр.

Translation from: Referativnyy zhurnal, *Zhurnal*, 1969, No. 12, p. 10, # 12, 1969

AUTHORS Korotkova, A. A., Maikina, Kh. B., Pakhar, A. P., Borina, I. S.

TITLE Drying of Latex Sponges by Applying High Frequency Currents

PERIODICAL: Tr. N. 1, in-ta reser. i tekhn. izdaniy, 1969, No. 1, p. 10, # 12, 1969

TEXT The authors studied the drying process of the latex sponge by high currents. The unit for drying the sponge consisted of a h.f.-generator, heating electrodes, and measuring instruments. The h.f.-generator with the oscillator power of 1.5 kw was made up with two tubes of the ГК-300 (ГК-300)-type. The heating electrodes are plates of sheet aluminum of 300 x 200 x 3 mm in size. The test pieces with parallelepiped shape of 150 x 100 x 40 mm in size were heated in the electrical h.f.-field of the plane-parallel heating electrodes which had neither thermal nor electric contact with the test pieces. In this way, the removal of the water vapors was promoted which were liberated from the material in the drying process. During the drying process of the sponge at 80°C, its moisture decreases from 55 to 1.2%, the tangent of the dielectric loss angle ($\tan \delta$) decreases from

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S/181/41/0007-22/113/113
A005/A001

Drying of Latex Sponge by Applying High Frequency Currents

0.34 to 0.036, and the dielectric constant (ϵ) decreases from 2.0 to 1.04. At the decrease of $\tan \delta$ and ϵ , their values remain in that range in which the sponge is heated further effectively. This change of the electrical characteristics favorably affects the quality of the sponge, because it does not allow the deterioration of the sponge. In the general case, the electrical sponge properties are dependent on the composition of the latex mixture, the porosity of the sponge, and the carefulness of washing off. The better the washing off of the sponge, the higher is the drying process rate. The intensification of the sponge drying by increasing the frequency of the current and the intensity of the electric field is possible up to a definite limit which is due to the decrease in the quality of the sponge at very quick drying. In the drying of a test plate of 40 mm thickness for 6 minutes, the rate increases during the first minute, then it reaches a maximum, and after 3 minutes the drying rate is low, and the plate is dried in the remaining 3 minutes. The greater the thickness of the test plate, the lower is the drying rate. The temperature of the sponge during the drying process is not constant. If the drying intensity is low, the functional curve of the sponge temperature versus the drying duration passes through a maximum, not exceeding a definite allowable value. A

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3/081/65/005/022/013/01
A005/A001

Drying of Latex Sponge by Applying High Frequency Currents

Intense drying, the sponge temperature increases monotonously. The higher the accuracy in washing off of the sponge, the lower is the value of $\operatorname{tg} \delta$, the lower the probability of its overheating during the drying process. The layout of a pilot unit for sponge drying is described. The optimum conditions for sponge drying and the economical substantiation of the expediency of drying the sponges by h. f.-currents are presented.

I. Pil'menshteyn

Translator's note: This is the full translation of the original Russian abstract.

Card 3/3

1 (2) 27/11-11-1-12/82
AUTHOR: Malkin, V.I. and others, A.I., Institute of Techno-
logical Science

TITLE: The Application of HF Heating in Rubber Manufac-
turing Processes (Primeneniye v.v. nagreva v tekhnologii rezinovykh proizvodstva)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - radiotekhnika, 1982, Vol 1, Nr 1, p. 118-119 (USSR)

ABSTRACT: In a letter to the editorial board of the periodical "Izvestiya vysshikh uchebnykh zavedeniy - radiotekhnika" the authors state that high frequency heating in the electric field of a capacitor is especially suitable for the rubber industry. Thereby, they refer to the paper of A.V. Netushil, published in "Radiotekhnika", Vol 1, Nr 1, p. 75. In this connection, the authors list the technological processes which are developed with the application of high frequency heating by the NII khimii promyshlennosti (Scientific Research Institute of the Tire Industry): decrystallization of natural rubber;

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S V 111-2-1-1)/72

The Application of HF Heating in Rubber Manufacturing Processes

preliminary heating of rubber, softening and rubber-fabric is 10% prior to casting and vulcanization; drying of sponge products; etc. Further, the institute works on the vulcanization of sponges and tires in metal molds, etc. The introduction of the dielectric heating method is delayed by the completely inadequate output of high frequency generators for dielectric heating. In addition, the development of measuring instruments with small input capacitance is necessary, since the existing models have too high input capacitances which reduce the HF generators, for example, the tube voltmeter VES-76. The application of high frequency currents requires additional expenditures, since this method leads to a reduction of the production costs and improves the quality of the products. Finally, the authors point out that the number of high frequency heating specialists must be increased.

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S 7/142-2-1-19/02

The Application of HF Heating in Rubber Manufacturing Processes

There is a Soviet reference.

ASSOCIATION: NII shil'ma is myshlennost' MKhP (Scientific Research
Institute of the Tire Industry of MKhP)

Card 3/3

SOV/138-59-4-6 12 6

AUTHORS: Korotkova, A.A., Fomina, L.S., Malkina, Kh. E., Pukhov, A.P.

TITLE: A Method of Gelling and Vulcanizing Foamed Articles from Latex (Metod zhelatinirovaniya-vulkanizatsii gubchatykh izdeliy iz lateksa)

PERIODICAL: Kauchuk i Rezina, 1959, Nr 4, pp 19-23 (USSR)

ABSTRACT: Latex foams can be gelled and vulcanized by radio-frequency current in the 10-20 mc/s range, by high-frequency current from machine generators in the 500 to 10,000 c/s range, or at power frequency of 50 c/s. Experiments were made using moulds formed of reinforced rubber with electrode in the base and in the lid of the mould. Standard "Revertex" mixes containing 50% dibutylphthalate plasticizer were used for these tests. Difficulties through corrosion were encountered when working at 50 c/s frequency with the original aluminium electrodes. Tests were made with various electrode materials listed in Table 1 and it was found that stainless steel, mark EYaIT, showed only 0.002% weight loss on a four-hour test at 50 c/s and negligible corrosion with up to 10 or 12 repeat tests of this duration. At

Card 1/4 higher frequencies the electrode life with this material

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A Method of Gelling and Vulcanizing Foamed Articles from Latex

is prolonged indefinitely. The samples first tested were 100 x 100 x 35 mm in dimensions. The resistivity of various Revertex mixes, and of the foam blown from them to 3 times original liquid volume, are given in Table 2. Figure 1 shows change in resistivity with temperature at applied voltages of 5 and 8 volts. Figure 2 shows the current/voltage relationship for a foam extended by a factor of 3.5, and variation of resistance with expansion of the foam is tabulated in Table 3. The resistance of the later mixes and the foams follows Ohm's law, and the resistance increases considerably on foaming. The curve of temperature versus time for electrified intensities of 12.5, 11.0 and 8.2 V/cm are shown in the curves of Figure 3. Experiments were then carried out on specimens 260 x 250 x 40 mm at 50 V (12.5 V/cm) and 25 A initial current on the electrodes. Variation of temperature and current with time is shown in Figure 4. The current was applied for 10 minutes, after which time the temperature reached 130°C. The specimen was left in

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A Method of Gelling and Vulcanizing Foamed Articles from Latex

the closed mould for a further 10 minutes and cooled back to 90°C, at which temperature the foamed specimen could be removed from the mould without change of its moulded dimensions. The specific gravity, modulus, permanent deformation on compression, and ageing coefficients of specimens, where heating current was applied for 8, 10 and 12 minutes, are compared in Table 4. Power consumption is estimated at 0.3 to 0.45 kWh per kg of foam (or sponge latex). In order to produce articles such as car seat cushions with cavities in the foam, it is necessary to dispose the electrodes in the projections forming these cavities in strips so that the area of the top and bottom electrodes are equal. Exploratory trials were made on cushions 350 x 260 x 200 mm dimension, loaded at 6 V/cm and with an initial 50 c/s current of 0.014 A/cm². Temperature increased to 130°C after 15 minutes power application, and was allowed to decrease to 95°C after switching off before the mould was opened (30 minutes cooling time). It is suggested that similar methods and cycles could form the basis of a continuous process for

Card 3/4 gelling and vulcanizing foamed latex articles .

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A Method of Gelling and Vulcanizing Foamed Articles from Latex

There are 4 figures, 4 tables, and 3 English references, which include British patents 677482 (1950) and 654238 (1946).

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovykh i lateksnykh izdeliy i Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (The Scientific-Research Institute for Rubber and Latex Articles and The Scientific-research Institute of the Tyre Industry)

Card 4/4

PHASE I BOOK EXPLOITATION

SOV/5106

Malkina, Khristina Emil'yevna

Obshchiye osnovy tekhnologii rezinovogo proizvodstva (General Technological Principles of the Rubber Industry) Moscow, Goskhimizdat, 1960. 302 p. Errata slip inserted. 15,000 copies printed.

Ed.: S.I. Khodosh; Tech. Ed.: Ye.G. Shpak.

PURPOSE: This textbook is intended for workers in the tire and rubber industry, taking industrial engineering courses. It may also be used by students in tekhnikums.

COVERAGE: The book deals with the general principles of rubber manufacturing technology. It includes data on basic and auxiliary raw materials, including rubber and substitutes, reclaimed rubber, carbon black, textile materials, and ingredients for the manufacture of rubber. Principles for preliminary processing of these materials in preparatory plants at rubber factories are described along with the equipment used in the manufacture of rubber articles. ~~12~~

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S/138/60/000; 007/005/010
A051/A029

AUTHORS: Malkina, Kh.E.; Pukhov, A.P.; Ionov, V.A.

TITLE: The Ultrasonic Defectoscopy of Tire Casings

PERIODICAL: Kauchuk i Rezina, 1960, No. 7, pp. 12 - 20

TEXT: In most Soviet plants the quality check of tire casings has been conducted until recently by external examinations and knocking. This method was satisfactory due to its subjective nature. The ultrasonic defectoscopy method is recommended. Figure 1 represents the operation principle of an ultrasound apparatus. The NIISHP of the Soviet Union has designed an apparatus which is described in great detail. It has 6 channels plus an extra receiver and generator to ensure continuous operation in cases of a channel break-down. Figure 2 is an external view of the apparatus. The circuit diagram (Fig. 3) of the apparatus contains a block of feeders, a generator, receivers and transmitters. The feeding block has its own regulators, located on the front panel of the casing. The circuit diagram of the feeding block is shown in Figure 4, and that of the generator in Figure 5. The circuit diagram of the receiver is given in Figure 6. A diagrammatic cross-section of the transmitter is seen in Figure 7. The emitter

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A051/A029

The Ultrasonic Defectoscopy of Tire Casings

contained in the metal body is made of barium titanate. The thickness of the barium titanate plate is calculated from the formula

$$t = \frac{2200}{\varphi} = \frac{2200}{50} = 44,$$

so that it can function at a frequency of 50 and 150 Mc. In the formula t is the thickness of the plate in mm, φ - the resonance frequency in Mc. The casings being tested must be clean. Otherwise the defectoscope may give false readings. Water is used as wetting liquid with additions of 10 - 15% ethyl alcohol to ensure more uniform wetting of the casing. The authors tested casings of various sizes, starting at 5.60 - 15 to 12.00 - 20. The number of correct readings represented 93% of the total tested. There were different defects present, such as lamination, porosity, air bubbles, foreign bodies, destruction of the casing. The results of the tests conducted with the defectoscope are listed in Table 3. As a result of the experiments and tests carried out by the authors, several conclusions were drawn: 1) The defectoscope operating with 50 kc can detect defects in casings of small dimensions comprising a thin-walled body (5.60 - 15), as well as in massive casings with thick-walled bodies (12.00 - 20). 2) The size of the smallest defects detected with the apparatus on an equivalent surface was 7 - 8 mm in diameter, which shows that the apparatus has a high sensitivity. False data in most

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The Ultrasonic Defectoscopy of Tire Casings

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A051/A029

cases meant the detection of "false" defects. 4) The reliability of the apparatus in operation is high. During its functioning period (one year) no damages in the electrical part of the apparatus were observed. 5) The apparatus described can be installed in tire plants as a laboratory and production apparatus for selective, total or combined flaw detection, as well as in automobile and tire-repair plants. 6) The drawback of the defectoscope is the absence of a recorder of the defects shown. The duration of the testing of one casing will be 4 min when an automatic recorder and a perfected tub are introduced into the design of the defectoscope. There are 3 tables, 4 circuit diagrams, 2 diagrams, 1 graph, 1 photograph and 3 English references. ✓

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

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S/061/62/000/008/054/057
B/59/5101

AUTHORS: Malkina, Ek. E., Pukhov, A. P.

TITLE: Drying and vulcanization of rubber latex articles by an industrial-frequency current and contact radiation

PERIODICAL: Referativnyi zhurnal. Khimiya, no. 3, 1962, 601, abstract #1381 (Vysok. i nizk. i tekh. inform. N-1. in-t tekhn.-ekon. issled. Gos. kom. na Svy. SSSR po Khimii, no. 4, 1961, 16-19)

TEXT: Gelatinization-vulcanization of latex sponge by an industrial-frequency current and the contact-radiation method of drying-vulcanizing monolithic latex articles are described. In both cases, an industrial frequency current of 50 cps was used. Vulcanization of articles 300 mm thick at a current density of 0.3 A/cm^2 , took 20-25 min, which is 4-5 times shorter than with heating by heat transfer. Energy consumption in vulcanization is 0.3-0.45 kW-hr per kg of sponge. A second method was developed for latex articles produced by gelatinization. A metal core, on which is dried and vulcanized a gel of complex configuration, is

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S/01/68,000/100/09A/057
B/00,0101

Drying and vulcanization of ...

provided with an electrical heater. The outer surface of the article is subjected to infra-red heating. The temperature is kept lower than the temperature at which storage of reaction occurs. The total drying-vulcanizing time is 145 min, energy consumption is 0.24 kw-hr for heating of the core and 0.5 kw-hr for the infra-red heating. [Abstracter's note: Complete translation.]

Card 2/2

MALKINA, Kh.E.

Vulcanization shops of tire factories in operation. Kauch.i rez. 20
no.3:44-46 Mr '61. (MIRA 14:3)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Tires, Rubber) (Vulcanization)

MALKINA, Kh.E.; KRASOTINA, A.N.; Primali uchastiye: ZUBKOVA, I.A.;
RYZHKOVA, K.A.; SALOMASOVA, A.M.

Compounding formula, manufacture, and uses of carbon black-free
lubricants for vulcanization molds. Kauch.i rez. 20 no.7:30-33
Jl '61. (MIRA 14:6)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Vulcanization—Equipment and supplies)
(Lubrication and lubricants)

MALKINA, Kh.E.; VOSTROKNUTOV, Ye.G.; KAMENSKIY, B.Z.

Conference on tire recapping. Kauch. i rez. 20 no.10:54-57 0 '61.
(Tires, Rubber) (MIRA 14:12)

5(2)

AUTHORS:

SOV/75-14-3-19/29

Shat'ko, P. P., Vasina, N. T., Podol'skaya, V. I.,
Malkina, L. A., Ponomareva, T. F.

TITLE:

Determination of Micro Amounts of Arsenic by Using a Solution
of Bivalent Chromium (Opredeleniye mikrokolichestv mysh'yaka
s primeneniye rastvora dvukhvalentnogo khroma)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 3, pp 358-359
(USSR)

ABSTRACT:

The reduction of the ions of the pentavalent arsenic is carried out on freshly precipitated metallic copper as collector. The copper is precipitated by means of chromium salts and dissolved again with iron ammonium alum, the residue consisting of metallic arsenic is determined iodometrically in the usual way. The method permits the determination of 0.02 mg As in 100-200 ml. It was checked on standard samples of bronze and brass. In the analysis of copper alloys a preceding addition of CuSO_4 is not necessary. Tin, lead and other components of bronze⁴ and brass do not disturb. There are 1 table and 11 Soviet references.

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Determination of Micro Amounts of Arsenic by Using a Solution of Bival ...
Chromium

SOV/75-14-3-19/20

ASSOCIATION: Luganskiy gosudarstvennyy meditsinskiy institut
(Lugansk State Medical Institute)

SUBMITTED: June 26, 1958

Card 2/2

TUMANOV, A.A. & MALKINA, L.A.

Enzymatic catalytic reactions for analytical purpose.
Trudy po khim. i khim. tekhn. no. 1: 118-123 '64.

(MIRA 18:12)

1. Submitted July 10, 1963.

MALKINA, L. I

AUTHOR: Malkina, L. I, Engineer

85-58-2-19/36

FILE: Use of Liquid Oxygen in High-Altitude Flights (Ispol'zovaniye zhidkogo kisloroda pri vysotnykh poletakh)

PERIODICAL: Kryn'ya rodiny, 1953, Nr 2, p 17 (USSR)

ABSTRACT: The author discusses the use of liquid oxygen during high altitude flying, referring to the KPZh-1 oxygen gasifier produced by the Ukrainskiy fiziko-tekhnicheskii institut (Ukrainian Physico-Technical Institute) in 1935 as the first of its kind. Subsequent improvements were incorporated in the KPZh-10 used by M. M. Gromov in his flight from Moscow to the USA, via the North Pole. The KPZh-30 developed in the last few years under the supervision of K. S. Butkevich is described, and future problems in this field are briefly mentioned, including those involved in interplanetary flight. There is one drawing of the KPZh-30.

AVAILABLE: Library of Congress

Card 1/1

17.12.12 A, L I

AUTHOR: Malkina, L.I., Engineer

67-6-3/23

TITLE: The Heat Exchange Process in an Oxygen Gasifier for Aircraft
(Teploobmen v samoletnom kislородnom gazifikatore)

PERIODICAL: Kislород, 1957, Nr 6, pp. 18-22 (USSR)
Received: April 7, 1958

ABSTRACT: In the introduction to this paper the necessity of using oxygen in passenger planes and its suitable storage in such aircraft is discussed. Preference is given to liquid oxygen. For this purpose gasifiers of the type "KOK-30" are used in the USSR. The heating necessary for gasification of the compressed oxygen is carried out at the expense of the temperature in the interior of the aircraft. It is pointed out that problems of the suitable construction of such gasifiers as well as their application in practice are still in the experimental stage. A particular difficulty for the computation of constructions in such apparatus, as also their application consists in the forming of the so-called "coat of snow" on the spiral tube of the gasifier, which is caused by the great difference in temperature between the liquid oxygen in the tube and the outside air. In this paper the attempt is made to investigate this phenomenon and to develop suitable theories. Calculations are based upon the form-

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The Heat Exchange Process in an Oxygen Gasifier
for Aircraft

67-6-3/23

ula by M.A. Mikheyev: $Nu_m = 0.54(Gr \cdot Pr)_m^{\frac{1}{4}}$, which is, however, said not to correspond to real conditions because heat emission is different at different points of the spiral tube of the gasifier. After mathematical calculations, which in this case comprise 11 formulae, the conclusion is drawn that this manner of determining the course taken by temperature in the "coat of snow" is but of little use. The attempt to solve this problem further according to the formula by Laplace-Carlson leads to the conclusion that only in this way a mathematical solution can be found, which, however, cannot be in any way connected with the physical side of this problem. It is said in conclusion that

$$Nu_m = (Gr \cdot Pr)^{\frac{1}{8}}$$

represents a suitable approximated formula. There are 3 figures, 1 table, and 3 Slavic references.

AVAILABLE: Library of Congress

Card 2/2

MALKINA, L. I., Cand of Tech Sci -- (diss) "Investigation of the Operation of Aircraft Oxygen Generators," Moscow, 1959, 14 pp (Moscow Institute of Chemical Machine-Building) (KL, 3-40, 11a)

24 (8)

AUTHOR:

Malkina, L. I., Engineer

SOV/67-59-4-5/19

TITLE:

Heat Exchange in Oxygen Gasifiers for Airplanes

PERIODICAL:

Kislod, 1959, Nr 4, pp 27-29 (USSR)

ABSTRACT:

The frost layer forming on the outer tube walls of tubular evaporation systems for low-boiling liquids strongly influences the heat exchange between the warmer ambient and the liquid evaporating in the tube. The dependence of the thermal conductivity coefficient on the volumetric weight of the frost layer had already earlier been investigated by Schropp; the tube wall temperatures, however, were then merely of -10 to -20°C. Other authors (Refs 2, 3) investigated the influence of the frost layer on the heat transfer coefficient k , but only down to tube temperatures of -20°C. The author of the present paper investigated this influence as exerted on the heat transfer coefficient, based on the evaporation of liquid oxygen in spiral tube vaporizers for airplanes, at considerably lower temperatures (at -150°C). When interpreting the experimental results he obtained a general empirical relation for the determination of k , in which the frost layer is considered. It holds: $k = \psi / w c_p$; ψ was experimentally determined

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Heat Exchange in Oxygen Gasifiers for Airplanes

SOV/67-59-4-5/'19

as being $\varphi = 0.022 \text{ Gr} \cdot \text{Re}^{-0.9}$; $w[\text{m/sec}]$, $r[\text{kg/m}^3]$. Oxygen gasifiers constructed according to these notions safely confirmed the results obtained with the research work. There are 3 figures and 4 references, 3 of which are Soviet.

Card 2/2

ALADYEV, I. T.; POYARKIN, V. P.; MALKINA, L. I.; MERKEL, E. Yu.

"Investigation of the cooling properties of ethyl alcohol at pressures to
800 ATM."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12
May 1964.

G. M. Krzhizhanovskiy Power Inst.

L 9799-66 EW. ()/EWT(m)/ETC/EPF(n)-2/EWG(m)/EWP(j)/T RPL WW/JW/WE/GS/RM

ACC NR: AT6001352

SOURCE CODE: UR/0000/65/000/000/0059/0062

AUTHOR: Alad'yev, I. T.; Povarnin, P. I.; Malkina, L. I.; Merkel', Ye. Yu.

ORG: Power Institute im. G. M. Krzhizhanovskiy (Energeticheskiy institut)

TITLE: Investigation of the cooling properties of ethanol at pressures up to $800 \times 9.8 \times 10^4$ newtons/meter²

SOURCE: Teplo- i massoperenos. t. 1: Konvektivnyy teploobmen v odnorodnoy srede (Heat and mass transfer. v. 1: Convective heat exchange in an homogeneous medium). Minsk, Nauka i tekhnika, 1965, 59-62

TOPIC TAGS: ethanol, cooling, heat transfer

ABSTRACT: The experiments were carried out in a flow of alcohol in 1Kh18N9T stainless-steel seamless tubes with inside diameters of 0.0006 to 0.0021 meters and length to diameter ratios from 20 to 175. Tube wall temperature reached 973K, the temperature of the liquid varied from 288 to 623K, and the flow velocity of the alcohol was 5 to 60 meters/sec. The maximum specific heat fluxes reached 35×10^6 x 1.163 watts/meter². The experiments showed that heat transfer at pressures of $300 \times 9.8 \times 10^4$ newtons/meter² is accompanied by thermal

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decomposition¹ of ethanol with the formation of a coke-like deposit on the contact surface. Thermal decomposition of ethanol at a flow velocity less than 30 meters/sec starts at wall temperatures of 623-673 K and is practically independent of the liquid temperature. At higher velocities, decomposition of the alcohol is not observed even at a wall temperature of 973 K. At a pressure of $800 \times 9.8 \times 10^4$ newtons/meter², thermal decomposition was not observed. In the experiments at $300 \times 9.8 \times 10^4$ newtons/meter², pseudo-boiling was observed and led to an increase in the heat transfer rate. Pseudo-boiling was not observed at the pressure of $800 \times 9.8 \times 10^4$ newtons/meter². In the fully developed turbulent flow of alcohol in the absence of coke formation and pseudo-boiling at a pressure equal to or greater than $300 \times 9.8 \times 10^4$ newtons/meter², heat transfer to ethanol can be calculated by the laws of convective heat transfer. The data obtained satisfy the equation

$$Nu_{x,w} = 0.021 Re_{lg}^{0.8} Pr_{lg}^{0.4} \left(\frac{Pr_{lg}}{Pr_w} \right)^{0.25} \left(\frac{l_x}{d} \right)^{0.2}$$

where subscripts lg and w refer to the liquid and wall, respectively, and l_x is the length of the tube from the start of heating to the calculating section. Analysis of the experimental results shows that there exists an optimum pressure of the applied pressure at which pseudo-boiling is most developed. Further increase in pressure leads to a worsening of conditions for the formation of a new phase and the generation of pseudo-boiling.

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Card 3/3

1/14 LKINA, L.L.

KRASEVA, V.N., inzh.; BAG, A.A., kand. tekhn. nauk; MALKINA, L.L.;
KHOL'MER, O.M., inzh.

Catalytic dehydrogenation of alcohols. Masl.-zhir. prom. 24
no.12:23-25 '58. (MIRA 11:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh
i natural'nykh dushistykh veshchestv (for Kraseva, Bag). 2. Moskovskiy
zavod "Slozhnyye efiry" (for Malkina, Khol'mer).
(Perfumes, Synthetic) (Alcohols) (Dehydrogenation)

FREDLIN, L.Kh., doktor khim.nauk; SHARF, V.Z., inzh.; KHOL'MER, O.M., inzh.;
MALKINA, L.L.; LEBEDEV, I.M., inzh.

Preparation of guaiacol by the catalytic dehydration of a mixture
of pyrocatechol and methanol. Masl.-zhir.prom. 26 no.10:24-27 O
'60. (MIRA 13:10)

1. Institut organicheskoy khimii AN SSSR imeni N.D.Zelinskogo (for
Freydlin, Sharf). 2. Moskovskiy zavod "Slozhnyye efiry" (for
Khol'mer, Malkina, Lebedev).
(Guaiacol) (Pyrocatechol) (Methanol)

FREYDLIN, L. Kh.; SHARF, V.Z.; KHOL'MER, O.M.; MALKINA, L.L.

Properties of a boron phosphate catalyst in the dehydration
of a pyrocatechol-methanol mixture. Kin. i kat. 2 no.2:228-234
Mr-Ap '61. (MIRA 14:6)

1. Institut organicheskoy khimii imeni N. D. Zelinskogo AN SSR
i Issledovatel'skaya laboratoriya zavoda "Slozhnyye efiry".
(Boron phosphate)
(Dehydration (Chemistry))

MAKINA, M. G.

Malkina, M. G. "Study of the temperature of cerebro-spinal liquid during epilepsy," Trudy (Sarat. gos. med. in-t), Vol. VII, 1958, p. 2-11

SO: U-3264, 10 April 1953, (Letovis 'Zhurnal 'nykh Statey, No. 3, 1953)

VA 47A-7851/11.1.0.

Treatments,
to
(Report
(Carat.)

... .. (Late)

MALKINA, M. G.

Malkina, M. G. "Comparative study of osmotherapeutic methods in convulsive cases (mercusal, lumbar puncture, megnesia)," Trudy (Sovet. med. in-ty, Vol. VII, 1948, p. 102-16

SC: U-3264, 10 April 1959, (Letonis 'Zhurnal 'Vykh Statey, No. 3, 1949)

MALKINA, M. G.

Malkina, M. G. "On the problem of local tetanus," Trudy (Sarat. gos. med. in-t), Vol. VII, 1948, p. 229-36 - Bibliog: 5 items

SO: U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Statel, No. 3, 1949)

PA 65/49784

WALKIN, M. G.

USSR/Medicine - Societies
Endocarditis
Apr 49
"Proceedings of the Thirteenth Scientific Conference of Moscow Oblast Doctors," M. G. Walkin
Moscow, 2 pp

"Sov Med" No 4
Conference of doctors from Moscow Oblast Pub Health Dept and Moscow Oblast Sci Res Clinical Inst, 3 - 5 Dec 48, was attended by 1,020 persons. Two problems were discussed: subacute septic endocarditis and acute forms of hepatitis. Among the speakers were N. A. Vinogradov, Dep

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USSR/Medicine - Societies (Contd)
Apr 49
Min of Pub Health, Prof N. A. Zhdanov, Kharkov, and Prof B. A. Chernogubov.

65/49784

MALKINA, M. G.

23653.

RANENIYA POZVONOCHNIKA I SPINNOGO MOZGA I IKH KHRURGICHESKOYE. TRUDY SARAT. GOS.
MED. IN-TA, T. VIII. 1949, s. 299-306.--BIBLIOGR: 6 NAZV.

SO: LETOFT ' NO. 31, 1949

MALEINA, Marianna Grigor'yevna

(merkuzal) - as new (osmoterapevticheskoye) (Osmo-therapeutical?) Means
a Treatment of Epilepsy and Acute Prochee

Dissertation for a candidate of a Medical Science degree. Chair of Nerve
diseases (head, Prof. K.E. Tret'yakov) Saratov Medical Institute, 1950

MALKINA, M. G.

USSR/Medicine - Virus Diseases

Nov 51

"Development of Cirrhosis of the Liver as a Result of Botkin's Disease," M. G. Malkina, First Therapeutic Clinic, Moscow Oblast Sci Res Clinical Inst imeni M. F. Vladimírskiy

"Sov Med" Vol XV, No 11, pp 21-25

According to clinical observations, all forms of Botkin's disease (including light forms free of jaundice) may rapidly result in cirrhosis of the liver.

204755

1. MALKINA, M. G.
2. USSR (600)
4. Liver - Diseases
7. Non-icteric form of Botkin's disease. Sov. med. 10 no. 9, '52.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

MALKINA, M. G.

The therapy of patients with acute chorea. M. G. Malkina (Med. Inst., Saratov). Zhur. Nevrol. i Psichiatr. (Moscow) 53, 138-42 (1963). One of the primary manifestations of chorea is hydrophilia of the skin caused by a disturbed water metabolism of the entire organism. For therapeutic purposes dehydration treatments by the $MgSO_4$ and lumbar puncture methods alone or in combination were used. $MgSO_4$ (25%) was injected intramuscularly daily in increasing doses of 5-10 ml, gradually returning to the 3-ml dose. Withdrawal of spinal fluid by lumbar puncture was resorted to in each case only once. Some patients were treated with mercural which was administered intramuscularly every 3rd day at the rate of 1 inf. of 10% soln. until 6-12 injections were given, depending upon the individual cases. Withdrawal of spinal fluid by lumbar puncture brought about only temporary relief of short duration. Treatment with $MgSO_4$ brought about lasting improvement or cure within 19 days. Of 27 patients treated with mercural alone 13 were cured within a period of 10 days; in 11 cases cure was incomplete and had to be supplemented by other therapeutic dehydrating procedures; the condition of 2 patients remained unchanged, one patient became worse. B. S. Levin.

MALKINA, M.G.

On A.Kh.Shtempel's letter published in "Zhurnal nevrologii
i psikiatrii im S.S.Korsakova," no.10, 1953. Zhur.nevr.i psikh.
54 no.4:366-367 Ap '54. (MLRA 7:5)
(SHTEMPEL, A.Kh.) (CHOREA)

psycno-pat...
crine system previously to the onset of disease...
tonsillectomy the following signs and symptoms appeared: a non-glycosuric poly-
uria, a progressive exhaustion and adynamia, loss of pubic and axillary hair, a
persistent subnormal temperature, low blood pressure figures, a low blood
sugar level and anorexia, changing subsequently to bulimia. Only 1 year after
the onset of the disease psychical changes became apparent: negativism, malice
to his relatives, unsteady delirious ideas of being poisoned, nonsensical hypo-
chondriacal thoughts, fragmentary hallucinations, languor, depression, apathy,
irritability. During life, a syphilitic nature of the disease was supposed - on
account of the anamnestic data and of a temporary improvement following the
specific therapy with biochinol and antibiotics. The clinical diagnosis was con-
firmed at post-mortem examination of the brain. Lesions of vessels of a syphil-
itic type and a diffuse gummatous infiltration were found mainly in the diencepha-
lon and chiasma; there were none in the hypophysis. Analysing the described case,
we see that Simmonds' disease can be accompanied by polymorph and temporary
psychopathological changes of an asthenic-depressive syndrome type - emotional
lability, irritability, negativism; it is important to observe this in the differential
diagnosis from schizophrenic diseases. In connection with the localization of the
lesions in the diencephalon, disturbances of its function - the non-glycosuric
polyuria, bulimia, impaired thermoregulation are observed. Such overlap blurs
the picture of the basic disease and leads to a wrong diagnosis.

Krimsky - Moscow (VI, 3, 8)

MALKINA, M.G., kandidat meditsinskikh nauk (Saratov); ARKHANGEL'SKIY, A.V.,
kandidat meditsinskikh nauk (Saratov)

Psychic disorders in cerebro-hypophysial cachexia. Probl.endok. i
gorm. 2 no.1:3-7 Ja-F '56. (MLRA 9:10)

1. Iz kafedry psikiatrii (zav. - prof. M.P.Kutanin) i kafedry
patologicheskoy anatonii (zav. - prof. A.M.Antonov) Saratovskogo
meditsinskogo instituta.

(SIMMONDS' DISEASE, complications,
ment. disord. (Rus))

(MENTAL DISORDERS, etiology and pathogenesis,
Simmonds' dis. (Rus))